

STATUS OF THE CLAIMS

The following claim listing shall replace and supercede all previous claims.

1. (Currently amended) An isolation platform comprising:

an upper plate upon which a payload comprising equipment to be supported is placed, said upper plate having a plurality of downward-facing, conical, rigid bearing surfaces linked by connecting members affixed along one or more edge of each said bearing surface;

a lower plate secured to a foundation, said foundation supporting the isolation platform and the equipment to be supported, said lower plate having a plurality of upward-facing, conical, rigid bearing surfaces linked by connecting members affixed along one or more one edge of each said bearing surface and disposed opposite said downward-facing, conical, rigid bearing surfaces, said downward and upward bearing surfaces defining a plurality of bearing cavities between said upper and lower plates;

a plurality of rigid spherical balls interposed between said downward and upward bearing surfaces;

said downward and upward bearing surfaces comprising central apices having the same curvature as that of said spherical balls, and having recess perimeters having the same curvature as that of said spherical balls, which connects said central apices and recess perimeters with continuous slope, wherein the curvature of said

spherical balls and downward and upward bearing surfaces are further configured such that as said spherical balls and upper and lower plates displace laterally relative to one another, a restoring force damping continued movement of the plates is substantially constant;

structured so that, in response to an external vibration, said lower plates are displaced laterally with respect to said upper plates such that the rigid spherical balls therebetween roll about their respective bearing surfaces and are raised to higher elevations, the platform further comprising

a retention mechanism securing said lower plate and said upper plate together that allows for lateral displacement between said upper and lower plates without separation of said upper and lower plates.

2. (Original) The isolation platform of claim 1, further comprising a resiliently deformable gasket interposed between said upper and lower plates.

3. (Original) The isolation platform of claim 1, wherein said upper plate comprises a plurality of upper plate segments attached to a plurality of corresponding upper connecting members which define said upper plate and further define a plurality of upper interstitial regions.

4. (Original) The isolation platform of claim 1, wherein said lower plate comprises a plurality of lower plate segments attached to a plurality of corresponding lower connecting members which define said lower plate and further define a plurality of lower interstitial regions.

5-6 (Cancelled)

7. (Currently amended) An apparatus comprising a combination of:

- a) an isolation platform and
- b) a payload comprising equipment to be supported thereupon,  
where the isolation platform comprises:

a first structure having four or more plates having downward facing bearing surfaces and linked by connecting members affixed along one or more edge of each said bearing surface, each bearing surface comprising a steel recessed surface optionally coated with a protective layer with a central apex and a conical surface extending from said central apex continuously to a perimeter of said recess, wherein distances between said apices of said recesses are at least equal to distances antipodal points of a footprint of the payload; a second structure wherein said first and second structures are positioned such that said bearing surfaces of said first and second structures define said four or more cavities therebetween, each cavity containing at least one rigid ball, structured so that in response to an external vibration, the plates of the first structure are displaced laterally with respect to the plates of the second structure such that the rigid balls therebetween roll about their respective bearing surfaces and are raised to higher elevations and a restoring force damping continued movement of the plates is substantially constant,

wherein said first structure and said second structure are movably fastened together in a manner that simultaneously limits displacement of said first structure relative to said second

structure in a vertical plane and reduces displacement in a horizontal plane of said first structure relative to said second structure.

8. (Previously presented) The isolation platform of claim 7, wherein said first structure further comprises a payload securing device on a top surface of said first structure.

9. (Previously presented) The isolation platform of claim 7, wherein said first and second structures are open on one longitudinal end allowing access to cables.

10. (Currently amended) An apparatus comprising a combination of:

- a) an isolation platform and
- b) a payload comprising equipment to be supported thereupon, where the isolation platform comprises: a first open pan structure having four or more plates having downward facing bearing surfaces and linked by connecting members affixed along one or more edge of each said bearing surface, wherein said first open pan structure forms a quadrilateral, said first open pan structure having openings between [[each]] plates, each bearing surface comprising a steel recessed surface optionally coated with a protective layer with a central apex and a conical surface extending from said central apex continuously to a perimeter of said recess, wherein distances between said apices of said recesses are at least equal to distances antipodal points of a footprint of the payload; a second open pan structure having the same number of upward facing bearing surfaces linked by connecting members affixed along one or more edge of each said bearing surface as said four or more plates

having downward bearing surfaces and wherein said first and second open pan structures are positioned such that said bearing surfaces of said first and second open pan structures define four or more cavities therebetween, each cavity containing at least one rigid ball,

structured so that in response to an external vibration, the plates of the first open pan structure are displaced laterally with respect to the plates of the second open pan structure such that the rigid balls therebetween roll about their respective bearing surfaces and are raised to higher elevations, wherein a restoring force damping continued movement of the plates is substantially constant and,

wherein said first pan structure and said second open pan structure are movably fastened together in a manner that simultaneously limits displacement of said first open pan structure relative to said second open pan structure in a vertical plane and reduces displacement in a horizontal plane of said first open pan structure relative to said second open pan structure.

11. (Canceled)

12. (Previously presented) The isolation platform of claim 1 wherein the equipment is sensitive.

13. (Previously presented) The isolation platform of claim 1 wherein the equipment is a server.

14. (Previously presented) The isolation platform of claim 1 wherein the equipment is an electron microscope.

15. (Previously presented) The isolation platform of claim 7 wherein the equipment is sensitive.

16. (Previously presented) The isolation platform of claim 7 wherein the equipment is a server.

17. (Previously presented) The isolation platform of claim 7 wherein the equipment is an electron microscope.

18. (Previously presented) The isolation platform of claim 10 wherein the equipment is sensitive.

19. (Previously presented) The isolation platform of claim 10 wherein the equipment is a server.

20. (Previously presented) The isolation platform of claim 10 wherein the equipment is an electron microscope.

21. (Currently amended) An isolation platform comprising: two or more substantially flat substantially planar first plate segments, each said first plate segment comprising a first side and a second side opposite said first side comprising at least two upward facing recesses comprising a combination of radial and linear bearing surfaces; two or more substantially flat substantially planar second plate segments, each said second plate segment comprising a first side and an opposite second side comprising at least two downward facing recesses comprising a combination of radial and linear bearing surfaces; and two or more laterally affixed connecting members linking the two or more first plate segments wherein said first plate segment

bearing surfaces are linked by connecting members affixed along one or more edge of each said bearing surface, and two or more laterally affixed connecting members linking the two or more second plate segments wherein said second plate segment bearing surfaces are linked by connecting members affixed along one or more edge of each said bearing surface;  
said two or more first plate segments facing said two or more second plate segments, the opposing recesses between individual said first plate segments and said second plate segments defining at least two cavities therebetween, each cavity containing at least one rigid ball therebetween;  
wherein in response to an external vibration, the two or more first plate segments are displaced laterally with respect to the two or more second plate segments such that the rigid balls therebetween roll about their respective bearing surfaces, thereby raising the balls and/or bearing surfaces to a higher elevation, and wherein a restoring force damping continued movement of the plates is substantially constant.

22. (Previously presented) The isolation platform of claim 21 wherein at least a pair of laterally affixed connecting members linking said first plate segments or said second plate segments are parallel to each other.

23. (Previously presented) The isolation platform of claim 21 wherein the connecting members link the plate segments via nuts and bolts.

24. (Previously presented) The isolation platform of claim 21 that is structured such that a payload comprising equipment to be supported is placed on the first side of said two or more

second plate segments.

25. (Previously presented) The isolation platform of claim 21 wherein a restraining device is attached between said two or more second plate segments and said payload comprising equipment to be supported.

26. (Previously presented) The isolation platform of claim 21 wherein the open space between two or more of said first plate segments or the two or more of second plate segments allows access to cables.